

EAST Search History (25 pp.) ~~44~~

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|-------|--|---|------------------|---------|------------------|
| L1 | 2 | ("6078064").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/29 08:13 |
| L2 | 37 | counter adj doping.ti. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/29 08:14 |
| L3 | 1393 | amphoteric near4 (C carbon) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/29 08:15 |
| L4 | 10 | amphoteric near4 (C carbon).ti.ab, clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/03/29 08:55 |
| L5 | 15919 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/10\$1) or (372/43.01) or (372/46.01)).CCLS. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/29 08:56 |
| L6 | 90 | 5 and (amphoteric (dual near3 (dopant impurity)) counter adj (doping dopant) counter-doping counter-dopant) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/03/29 08:58 |
| L7 | 81 | 5 and (amphoteric (dual near3 (dopant impurity)) counter adj (doping dopant) counter-doping counter-dopant) and @ad<"20031006" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/03/29 08:59 |
| L8 | 18 | 5 and (amphoteric (dual near3 (dopant impurity)) counter adj (doping dopant) counter-doping counter-dopant) and @ad<"20031006" and nitride | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/03/29 09:00 |
| S1 | 3 | "605513".ap. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 09:19 |

EAST Search History

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|-----|-------|--|---|----|-----|------------------|
| S2 | 99 | "5563422" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/04 11:49 |
| S3 | 2 | ("5563422").PN. | USPAT; USOCR; DERWENT | OR | OFF | 2004/11/04 11:50 |
| S4 | 2 | ("6078064").PN. | USPAT; USOCR; DERWENT | OR | OFF | 2004/11/04 11:51 |
| S5 | 15 | dual adj contact and (light-emitting light adj emitting laser).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 11:57 |
| S6 | 968 | (contact near4 n-type near4 p-type) and (light-emitting light adj emitting laser).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 11:57 |
| S7 | 613 | (contact near3 n-type near3 p-type) and (light-emitting light adj emitting laser).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 11:58 |
| S8 | 239 | (contact near2 n-type near2 p-type) and (light-emitting light adj emitting laser).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 12:09 |
| S9 | 3 | dual adj doping and (light-emitting light adj emitting laser).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 12:19 |
| S10 | 56919 | contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 12:20 |

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| S11 | 4506 | contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/100.ccls. 257/101.ccls. 257/102.ccls. 257/103.ccls. 372/43.ccls. 372/44.ccls. 372/45.ccls. 372/46.ccls. 372/47.ccls. 372/48.ccls. 372/49.ccls. 372/50.ccls.) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 12:21 |
| S12 | 94 | contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/100.ccls. 257/101.ccls. 257/102.ccls. 257/103.ccls. 372/43.ccls. 372/44.ccls. 372/45.ccls. 372/46.ccls. 372/47.ccls. 372/48.ccls. 372/49.ccls. 372/50.ccls.) and (brightness light adj intensity).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 12:43 |
| S13 | 31 | contact.ti,ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/100.ccls. 257/101.ccls. 257/102.ccls. 257/103.ccls. 372/43.ccls. 372/44.ccls. 372/45.ccls. 372/46.ccls. 372/47.ccls. 372/48.ccls. 372/49.ccls. 372/50.ccls.) and (brightness light adj intensity).ti,ab,clm. and contact near4 (dual n-type p-type) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 14:14 |
| S14 | 0 | 540/145.ccls. and semiconductor and porphyrin | USPAT | OR | ON | 2004/11/04 14:31 |
| S15 | 17 | 540/145.ccls. and semiconductor and porphyrin | USPAT | OR | ON | 2004/11/04 14:34 |
| S16 | 3 | "396512".ap. | USPAT | OR | ON | 2004/11/04 14:52 |
| S17 | 4 | "396512".ap. | US-PGPUB; USPAT | OR | ON | 2004/11/04 14:53 |
| S18 | 5809 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2004/11/07 13:25 |
| S19 | 1142 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:31 |

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| S20 | 5 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 AlInGaN and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:51 |
| S21 | 6 | (US-5563422-\$ or US-6078064-\$ or US-6207972-\$).did. or (US-20040104399-\$).did. or (EP-622858-\$ or US-6078064-\$).did. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2004/11/04 16:48 |
| S22 | 5 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 AlInGaN and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:53 |
| S23 | 183 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:53 |

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| S24 | 185 | (((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:54 |
| S25 | 3 | (((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) and dual | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:55 |
| S26 | 1 | (((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) and dual near4 contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:55 |

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| S27 | 0 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103)).CCLS.) and (sapphire "Al.sub.2"\$1"O.sub.3" "LiGaO.sub.2" "LiAlO.sub.2") near4 substrate and buffer near4 (GaN InN AlN AlInGaN GaInN InGaN AlGaN GaAlN AlInN InAlN) and (MQW multiple adj quantum adj well) and (transparent adj electrode oxide zinc adj2 oxide ITO indium-tin-oxide indium adj tin adj oxide indium-tin adj oxide oxide near4 electrode) and dual near4 doping | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/04 16:56 |
| S28 | 467 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 14:02 |
| S29 | 24 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and barrier adj layer near6 "well layers" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 09:13 |
| S30 | 9 | (US-6207972-\$ or US-6078064-\$ or US-5563422-\$).did. or (US-20040056258-\$ or US-20020197764-\$ or US-20040164310-\$ or US-20040104399-\$).did. or (EP-622858-\$ or US-6078064-\$).did. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2004/11/05 13:50 |
| S31 | 5 | "6207972" | US-PGPUB; USPAT; DERWENT | OR | OFF | 2004/11/05 13:51 |
| S32 | 2 | "6207972".pn. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2004/11/05 13:51 |

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| S33 | 1 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (conductive oxide ZnO ITO indium-zinc adj oxide) and (dual near3 (dopant doped)) and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 14:08 |
| S34 | 42 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (conductive oxide ZnO ITO indium-zinc adj oxide) and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 18:46 |
| S35 | 30 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (conductive oxide ZnO ITO indium-zinc adj oxide) and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) and (clad cladding) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 16:35 |
| S36 | 120 | (light-emitting light adj emitting laser).ti,ab,clm. and (buffer near6 GaAs near6 AlGaInP) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/06 17:19 |
| S37 | 23 | (light-emitting light adj emitting laser).ti,ab,clm. and (buffer near3 GaAs near3 AlGaInP) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 16:39 |

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| S38 | 44 | (light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 16:40 |
| S39 | 44 | ((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 16:43 |
| S40 | 14 | ((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) and (transparent adj2 oxide zinc oxide ZnO indium-tin adj oxide ITO) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 16:45 |
| S41 | 8 | ((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) and (transparent adj2 oxide zinc adj oxide ZnO indium-tin adj oxide ITO) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 17:45 |
| S42 | 1 | ((light-emitting light adj emitting laser).ti,ab,clm. and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate)) and ((clad cladding) near6 buffer near6 GaAs near6 AlGaInP near6 substrate) and (transparent adj2 oxide zinc adj oxide ZnO indium-tin adj oxide ITO) and (MQW multiple adj quantum adj layer) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 16:48 |
| S43 | 2 | "5233204".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 18:26 |
| S44 | 29 | p-type adj electrode near3 "formed".clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/05 18:27 |

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| S45 | 53 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 18:47 |
| S46 | 11 | multiple adj quantum adj well.ti, ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and buffer near5 substrate and (GaN SiC silicon Ge germanium AlN GaAs InP GaP) near4 substrate and buffer near5 (AlInGaN InGaAlN AlGaInN InAlGaN GaAlInN GaInAlN AlN InN GaN AlGaN GaAlN InGaN GaInN AlInN InAlN) and buffer.ti,ab. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/05 18:48 |
| S47 | 1 | "5981977".pn. and (MQW multiple adj quantum) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:13 |
| S48 | 0 | active near4 InGaN near4 GaN near4 (MQW multiple adj quantum) near4 efficiency | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:13 |
| S49 | 0 | active near8 InGaN near8 GaN near8 (MQW multiple adj quantum) near8 efficiency | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:14 |
| S50 | 68 | active near8 (MQW multiple adj quantum) near8 efficiency | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:14 |
| S51 | 3 | active near4 (MQW multiple adj quantum) near4 efficiency and InGaN | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:52 |

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| S52 | 192 | active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:56 |
| S53 | 113 | active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) and (light-emitting light adj emitting). ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:57 |
| S54 | 94 | active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaN InGaN GaAlN GaInN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:58 |
| S55 | 26 | active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaN GaAlN InGaN GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaN InGaN GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 13:59 |

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| S56 | 26 | active near4 (MQW multiple adj quantum) near12 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaIn InGaIn GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 14:01 |
| S57 | 21 | active near4 (MQW multiple adj quantum) near6 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaIn InGaIn GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 14:02 |
| S58 | 4 | active near4 (MQW multiple adj quantum) near6 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaIn InGaIn GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide) and barrier near6 InGaN | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 14:03 |

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| S59 | 21 | active near4 (MQW multiple adj quantum) near6 InGaN and buffer and substrate near6 (SiC GaN silicon germanium Ge AlN GaAs InP GaP) and buffer near6 (AlInGaN GaN AlN InN AlInN InAlN AlGaIn GaAlN InGaIn GaInN) and (light-emitting light adj emitting). ti,ab,clm. and contact adj layer near6 (GaN AlGaIn InGaIn GaAlN GaInN) and (conductive adj oxide ITO ZnO cadmium-tin adj oxide ATO antimony-tin adj oxide indium-tin adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 14:55 |
| S60 | 62 | multiple adj quantum adj "well".ti, ab. and light-emitting.ti. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 15:04 |
| S61 | 90 | buffer near8 substrate near8 GaAs near8 (AlGaInP AlInGaP GaInAlP GaAlInP InAlAsP InAsAlP) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 15:06 |
| S62 | 18 | buffer near4 substrate near4 GaAs near4 (AlGaInP AlInGaP GaInAlP GaAlInP InAlAsP InAsAlP) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 15:12 |
| S63 | 1 | buffer near4 substrate near4 GaAs near4 AlGaIn | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 16:02 |
| S64 | 1 | buffer near4 substrate near4 GaAs near4 (AlInN InAlN GaInN InGaIn GaAlN AlGaIn) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 16:32 |
| S65 | 28 | buffer near4 substrate near4 GaAs near4 (AlInP InAlP GaInP InGaP GaAlP AlGaP) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 16:35 |
| S66 | 18 | buffer near4 substrate near4 GaAs near4 (AlInP InAlP GaInP InGaP GaAlP AlGaP) and "257"/\$7.ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 16:35 |

EAST Search History

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| S67 | 17 | buffer near4 substrate near4 GaAs near4 (AlIn InAlP GaInP InGaP GaAlP AlGaP) and "257"/\$7.ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/06 16:36 |
| S68 | 34 | buffer near4 (AlInGaN AlGaInN InAlGaN InAlGaN GaAlInN GaInAlN InGaN GaInN GaAlN AlGaN AlInN InAlN) and substrate near4 GaAs and (multiple adj quantum adj "well" MQW) near4 (INGaN GaInN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/06 17:23 |
| S69 | 17 | buffer near4 (AlInGaN AlGaInN InAlGaN InAlGaN GaAlInN GaInAlN InGaN GaInN GaAlN AlGaN AlInN InAlN) and substrate near4 GaAs and (multiple adj quantum adj "well" MQW) near4 (INGaN GaInN) and (light-emitting light adj emitting).ti,ab,clm. and "257"/\$7.ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/06 17:38 |
| S70 | 1461 | Si-doped adjGaN near12 n-GaN | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/06 17:38 |
| S71 | 6 | Si-doped adj GaN near12 n-GaN | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/06 19:36 |
| S72 | 9 | II-nitride | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/11/06 19:37 |
| S73 | 11242 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/4\$1) or (372/50)).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2004/11/07 13:26 |
| S74 | 72 | ((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/4\$1) or (372/50)).CCLS.) and (dual adj dopant window adj layer) and (transparent near3 oxide ZnO ITO) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:44 |

EAST Search History

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| S75 | 41 | (((((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/4\$1) or (372/50)).CCLS.) and (dual adj dopant window adj layer) and (transparent near3 oxide ZnO ITO)) and (dual\$2 dopant doping impurities impurity) and (transparent near3 oxide ZnO ITO)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:46 |
| S76 | 0 | epistar.as. and oxide.clm. and window.clm. and dual\$2.clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:48 |
| S77 | 0 | epistar.as. and oxide.clm. and dual\$2.clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:48 |
| S78 | 0 | epistar.as. and dual\$2.clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:48 |
| S79 | 0 | epistar.as. and dual.clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:49 |
| S80 | 5 | epistar.as. and (light adj emitting light-emitting).clm. and contact adj (film layer).clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/11/07 13:50 |
| S87 | 2 | "6207972".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/09 13:50 |
| S88 | 2 | "751794".ap. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/09 13:51 |

EAST Search History

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| S89 | 2 | ("6207972").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/17 13:12 |
| S90 | 2 | ("5981977").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/17 13:20 |
| S91 | 0 | ("merchant.in.").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/17 15:57 |
| S92 | 1499 | merchant.in. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/17 15:57 |
| S93 | 149 | merchant.in. and agere.as. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/17 16:27 |
| S94 | 2 | jp-63029973\$-\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/17 16:27 |
| S95 | 6 | ((("6,207,972") or ("5,981,977") or ("6,586,777")).PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/19 13:39 |
| S96 | 2 | ("6207972").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/19 15:11 |
| S97 | 8 | dual adj dopant and (laser light adj emitting).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/19 15:36 |
| S98 | 0 | dually adj doped and (laser light adj emitting).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/19 15:36 |

EAST Search History

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|------|-----|--|---|----|-----|------------------|
| S99 | 22 | doubly adj doped and (laser light adj emitting).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/19 15:40 |
| S100 | 609 | contact near5 (ito zno indium-tin-oxide transparent).ti, ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and semiconductor | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 15:42 |
| S101 | 105 | contact near5 (ito zno indium-tin-oxide transparent).ti, ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and semiconductor and n-type near3 p-type | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 15:53 |
| S102 | 3 | ("6803603").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/19 15:51 |
| S103 | 71 | contact near5 (ito zno indium-tin-oxide transparent).ti, ab,clm. and (light-emitting light adj emitting laser).ti,ab,clm. and semiconductor and n-type near3 p-type and (nitride GaN GaAlN AlGaIn) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 15:55 |
| S104 | 23 | (US-20020197764-\$ or US-20030006429-\$ or US-20040031978-\$ or US-20040056258-\$ or US-20040104399-\$ or US-20040164310-\$ or US-20050035362-\$).did. or (US-5481122-\$ or US-5563422-\$ or US-5763291-\$ or US-5789768-\$ or US-5981977-\$ or US-6057562-\$ or US-6078064-\$ or US-6169294-\$ or US-6207972-\$ or US-6225648-\$ or US-6303473-\$ or US-6465812-\$ or US-6552367-\$ or US-6735230-\$).did. or (EP-622858-\$ or US-6078064-\$). did. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2005/05/19 16:01 |
| S105 | 15 | S104 and n-type near6 p-type | US-PGPUB; USPAT; DERWENT | OR | OFF | 2005/05/19 16:19 |
| S106 | 3 | S104 and n-type near6 p-type near6 (doping dopant) | US-PGPUB; USPAT; DERWENT | OR | ON | 2005/05/19 16:02 |

EAST Search History

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|----------|-------|---|---|----|-----|------------------|
| S10 7 | 170 | transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj diode | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 16:21 |
| S10 8 | 169 | transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj (diode device). ti,ab,clm. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 16:22 |
| S10 9 | 127 | transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj (diode device). ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/10\$1.ccls. 372/4\$1.ccls. 372/50.ccls.) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 16:24 |
| S11 0 | 100 | transparent near6 contact and contact near6 p-type near6 n-type and (light-emitting light adj emitting laser) adj (diode device). ti,ab,clm. and (257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/10\$1.ccls. 372/4\$1.ccls. 372/50.ccls.) and (GaN AlGaIn GaAlIn GaAlInN InAlGaIn GaInAlIn nitride) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 16:25 |
| S11 1 | 0 | epistar.as. and contact adj (film layer) near4 (dual dually doubly near3 doped).clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/19 17:17 |
| S11 2 | 25806 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/10\$1) or (372/4\$1) or (372/50)).CCLS. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/20 08:17 |
| S11 3 | 18 | S112 and (((dual dually) near4 (dopant doping doped)) (n-type near4 p-type)) near6 (transparent near1 (oxide electrode) indium-tin-oxide ITO) and (laser light-emitting light adj emitting).ti, ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/20 08:20 |

EAST Search History

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|----------|-----|--|---|----|-----|------------------|
| S11 4 | 23 | (Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/21 17:34 |
| S11 5 | 0 | (Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact near10 (transparent adj electrode ITO indium-tin-oxide ZnO) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/21 15:34 |
| S11 6 | 8 | (Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact and (transparent adj electrode ITO indium-tin-oxide ZnO) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/21 15:34 |
| S11 7 | 8 | (Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact and (transparent adj electrode ITO indium-tin-oxide ZnO) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 15:34 |
| S11 8 | 8 | (Si:GaN Ge:GaN Gan:Si GaN:Ge) near4 contact and (transparent adj electrode ITO indium-tin-oxide ZnO) and (light-emitting light adj emitting laser) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 16:40 |
| S11 9 | 295 | transparent adj substrate near3 sapphire | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 16:40 |
| S12 0 | 0 | (Si:AlInGaN Ge:AlInGaN AlInGaN:Si AlInGaN:Ge InAlGaN:Si InGaAlN:Si) near4 contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/21 17:35 |
| S12 1 | 0 | (Si:AlInGaN Ge:AlInGaN AlInGaN:Si AlInGaN:Ge InAlGaN:Si InGaAlN:Si AlInGaN:Ge) near4 contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/05/21 17:35 |
| S12 2 | 0 | (Si:AlInGaN Ge:AlInGaN AlInGaN:Si AlInGaN:Ge InAlGaN:Si InGaAlN:Si AlInGaN:Ge) near4 contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 17:40 |
| S12 3 | 17 | GaN near4 intrinsic near4 n-type | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 18:19 |

EAST Search History

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| S12 4 | 0 | transparent adj oxide near2 electrode near8 light adj emitting adj diode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 18:19 |
| S12 5 | 120 | transparent adj oxide near2 electrode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 18:20 |
| S12 6 | 0 | transparent adj oxide near2 electrode near8 light adj extraction | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 18:20 |
| S12 7 | 2 | transparent adj oxide near2 electrode near8 efficiency | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/05/21 18:20 |
| S12 8 | 32 | (US-20020197764-\$ or US-20030006429-\$ or US-20030047736-\$ or US-20030127658-\$ or US-20040031978-\$ or US-20040056258-\$ or US-20040079947-\$ or US-20040104399-\$ or US-20040164310-\$ or US-20040227151-\$ or US-20050035362-\$).did. or (US-4495514-\$ or US-5481122-\$ or US-5563422-\$ or US-5763291-\$ or US-5789768-\$ or US-5981977-\$ or US-6057562-\$ or US-6078064-\$ or US-6169294-\$ or US-6207972-\$ or US-6225648-\$ or US-6303473-\$ or US-6380564-\$ or US-6465812-\$ or US-6552367-\$ or US-6712478-\$ or US-6735230-\$ or US-6803603-\$ or US-6806503-\$).did. or (EP-622858-\$ or US-6078064-\$). did. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2005/10/29 09:20 |
| S12 9 | 0 | S128 and kneissl.in. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 09:20 |

EAST Search History

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|----------|-----|---|---|----|-----|------------------|
| S13 0 | 199 | kneissl.in. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 09:20 |
| S13 1 | 38 | kneissl.in. and light adj emitting | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 09:22 |
| S13 2 | 2 | ("6515308").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 19:36 |
| S13 3 | 62 | contact adj layer near6 (dual (dual mixed) adj conductivity) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 09:50 |
| S13 4 | 2 | JP-2004282006\$-\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 09:52 |
| S13 5 | 1 | TW-561637\$-\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 09:58 |
| S13 6 | 4 | "both" near6 p-type near6 n-type near6 contact adj (layer film) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:00 |
| S13 7 | 274 | "doped" near4 "both" near6 p-type near6 n-type | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:02 |
| S13 8 | 11 | ("doped" near4 "both" near6 p-type near6 n-type) near6 contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:07 |

EAST Search History

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|----------|----|--|---|----|----|------------------|
| S13 9 | 0 | ("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near6 (mg zn be ca magnesium zinc beryllium cadmium) near6 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) near6 (contact adj (layer film)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:11 |
| S14 0 | 1 | ("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near6 (mg zn be ca magnesium zinc beryllium cadmium) near6 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) with (contact adj (layer film)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:13 |
| S14 1 | 89 | ("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near6 (mg zn be ca magnesium zinc beryllium cadmium) near6 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) and (light adj emitting laser) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:13 |
| S14 2 | 77 | ("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near4 (mg zn be ca magnesium zinc beryllium cadmium) near4 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) and (light adj emitting laser) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 10:19 |
| S14 3 | 59 | ("doping" "doped" "dopant" "impurity" "impurities") near4 "both" near4 (mg zn be ca magnesium zinc beryllium cadmium) near4 (si ge sn te o s c silicon germanium tin tellurium oxygen sulfur carbon) and (light adj emitting laser) and contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 15:31 |
| S14 4 | 98 | MQW near4 barrier near4 (quantum adj "well") | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 15:45 |
| S14 5 | 0 | MQW near4 barrier near4 (quantum adj "well") with (sandwich\$2 surround\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 15:45 |

EAST Search History

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|----------|----|---|---|----|----|------------------|
| S14 6 | 38 | ((multiple adj quantum adj "well" MQW) near8 barrier near8 (quantum adj "well")) with (sandwich\$2 surround\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 15:46 |
| S14 7 | 19 | ((multiple adj quantum adj "well" MQW) near4 barrier near4 (quantum adj "well")) with (sandwich\$2 surround\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 15:49 |
| S14 8 | 13 | ((multiple adj quantum adj "well" MQW) near4 barrier near4 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:28 |
| S14 9 | 21 | ((multiple adj quantum adj "well" MQW) near6 barrier near6 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:28 |
| S15 0 | 13 | ((multiple adj quantum adj "well" MQW) near4 barrier near4 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:29 |
| S15 1 | 8 | ((multiple adj quantum adj "well" MQW) near6 barrier near6 (quantum adj "well")) with (sandwich\$2 surround\$3) and light adj emitting not S150 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:37 |
| S15 2 | 4 | (InGaN near1 barrier) same (InGaN near1 (QW quantum adj "well")) same sandwiched | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:40 |
| S15 3 | 48 | (barrier) near6 (QW quantum adj "well") near6 sandwiched and (GaN InGaN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:46 |
| S15 4 | 45 | (barrier) near6 (MQW quantum adj "well") near6 sandwiched and (GaN InGaN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:46 |
| S15 5 | 8 | (barrier) near6 (MQW) near6 sandwiched and (GaN InGaN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 17:47 |

EAST Search History

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|----------|----|---|---|----|-----|------------------|
| S15 6 | 9 | (barrier) near6 (MQW) near6 sandwich\$3 and (GaN InGaN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 19:09 |
| S15 7 | 47 | kneissl.in. and cladding adj layer | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 19:09 |
| S15 8 | 6 | (light adj emitting 257/79.ccls. 257/8\$1.ccls. 257/9\$1.ccls. 257/10\$1.ccls.) and second adj contact and MQW near4 (InGaN "In.sub."\$3 near1 "Ga.sub."\$3 near1 N) and (clad cladding) near4 (AlGaIn GaAlN) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 19:41 |
| S15 9 | 3 | "605513".ap. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 19:49 |
| S16 0 | 0 | TW-144415\$-\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 19:49 |
| S16 1 | 7 | reverse adj tunnel\$ling adj contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 19:51 |
| S16 2 | 2 | ("4728370").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 19:52 |
| S16 3 | 46 | epistar.as. and contact | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 20:28 |
| S16 4 | 2 | buffer near4 (GaN adj (clad cladding)) near4 sapphire | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 20:30 |

EAST Search History

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|----------|-----|--|---|----|----|------------------|
| S16 5 | 14 | buffer near4 (GaN adj (clad cladding)) with sapphire | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:30 |
| S16 6 | 0 | buffer near4 (GaN adj (clad cladding)) with sapphire and lattice adj matching | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:34 |
| S16 7 | 3 | buffer near4 (GaN adj (clad cladding)) and sapphire and lattice adj matching | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:35 |
| S16 8 | 0 | buffer near4 (AlGaN adj (clad cladding)) and sapphire and lattice adj matching | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:35 |
| S16 9 | 281 | lattice adj matching and buffer and GaN and sapphire | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:35 |
| S17 0 | 61 | lattice adj matching with buffer and GaN and sapphire | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:36 |
| S17 1 | 52 | lattice adj matching with buffer and GaN and sapphire near3 substrate | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:36 |
| S17 2 | 41 | lattice adj matching with buffer and GaN with sapphire near3 substrate | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:52 |
| S17 3 | 283 | lattice adj constant near3 sapphire | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 20:55 |
| S17 4 | 13 | lattice adj constant near3 sapphire near6 buffer | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/10/29 22:17 |

EAST Search History

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|----------|-------|---|---|----|-----|------------------|
| S17 5 | 12173 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/43.01)).CCLS. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 22:18 |
| S17 6 | 0 | S175 and heavily adj doped near2 contact near4 diffusion with (deleterious disadvantage disadvantageous\$2 worsen\$3 detract\$3 problem maximum maximal ("too heavily" "too heavy")) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 22:21 |
| S17 7 | 0 | S175 and ((heavily near4 doping) (heavily adj doped)) near2 contact near4 diffusion with (deleterious disadvantage disadvantageous\$2 worsen\$3 detract\$3 problem maximum maximal ("too heavily" "too heavy")) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/10/29 22:21 |
| S17 8 | 33 | "6078064" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/03/28 19:12 |
| S17 9 | 2 | "20030201460" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/03/28 19:13 |
| S18 0 | 2 | ("6078064").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/28 20:09 |
| S18 1 | 0 | "605513".ap. and GaAlInN | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/28 20:09 |
| S18 2 | 0 | "605513".ap. and GaInAlN | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/28 20:10 |
| S18 3 | 3 | "605513".ap. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/03/28 20:10 |